



State of Utah

JON M. HUNTSMAN, JR.
Governor

GARY R. HERBERT
Lieutenant Governor

Department of Administrative Services

KIMBERLY K. HOOD
Executive Director

Division of Facilities Construction and Management

DAVID G. BUXTON
Director

ADDENDUM No. 1

Date: September 25, 2008

To: Commissioning Agents

From: Bill Bowen, Project Manager, DFCM

Reference: USTAR Neuroscience and Biomedical Technology Research Building
University of Utah
DFCM Project #: 06291750

Subject: **Addendum No. 1**

Pages	Addendum Cover Sheet	2 pages
	<u>Lab Cx Attributes</u>	<u>1 page</u>
	Total	3 pages

Note: This Addendum shall be included as part of the Contract Documents. Items in this Addendum apply to all drawings and specification sections whether referenced or not involving the portion of the work added, deleted, modified, or otherwise addressed in the Addendum. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

While we contend that SB220 should only be potentially applicable to a contract issued after the effective date of said bill, this is to clarify that for purposes of this contract, regardless of the execution or effective dates of this contract, the status of Utah Law and remedies available to the State of Utah and DFCM, as it relates to any matter referred to or affected by said SB220, shall be the Utah law in effect at the time of the issuance of this Addendum.

1.1 SCHEDULE CHANGES: None

1.2 GENERAL ITEMS:

1.2.1 The selected CM/GC is Layton Construction

1.2.2 As part of the Management Plan, please include your work backlog from 2008 through 2011.

- 1.2.3 The adjusted FLCC is \$111,064,500
- 1.2.4 University of Utah Design Standards can be found at the following link:
<http://www.facilities.utah.edu/cdc/DesignStandards/DesignStandards.html>
- 1.2.5 USTAR Infrastructure Study can be found at the following link:
http://dfcm.utah.gov/admin/upload/06291750%20CMGC/Utility_Cost_Allocation_Plan.pdf
- 1.2.6 The selected CxA will be required to commission all infrastructure improvements.
- 1.2.7 The Chiller Plant scope of work has been deleted from the USTAR project.

End of Addendum

Lab Cx Attributes

Laboratory Cx efforts to be focused in four areas:

1. **DDC Systems:** primary “tool” used throughout lab Cx effort
 - Verify:
 - Point-to-point connections
 - Calibration of input (e.g. sensors) and output devices (e.g. actuators)
 - Confirm:
 - Fume hood and room airflows with fume hoods open and closed
 - Static pressure in ducts at minimum and maximum flow
 - Room pressurization at min/max flow
 - Central plant cooling/heating systems (to be coordinated with Central Plant Cx Agent)
 - Demonstrate sequences:
 - Under all conditions (occupied/unoccupied; summer/winter; day/night)
2. **Fume Hoods and Exhaust Systems:** the primary user-safety systems and often ventilation driver
 - Containment Verification:
 - Basic Functional Tests
 - Measure and record hood performance
 - Face velocity within a tolerance of 10%
 - Reaction time within 3 seconds from minimum to maximum
 - Sash Movement Effect test per ASHRAE
 - Measure and record laboratory space differential pressure
 - Measure and record airflow offset between supply and exhaust flow rates
 - (TBD) Enhanced Functional Tests
 - ASHRAE 110-2005
 - Smoke Generation Test
 - Face Velocity testing
 - (TBD) Advanced Functional Tests
 - All involve tracer gas testing per ASHRAE 110-2005
 - Human-as-mannequin tests
 - Walk-up and walk-by tests
 - Entry door operation during containment tests
 - Vary supply air temperature during containment tests
3. **Laboratory Space or Module:** the secondary user-safety system and typical environmental control zone
 - Lab module systems;
 - Modulate valves and VAV boxes
 - Sash position monitors
 - Occupancy sensors
 - Temperature sensor locations
 - Room differential sensor locations
 - Reheat coils
 - Check for dead or recirculating air especially at low air flow
4. **HVAC Systems:** pressure and volume supporting user-safety systems and environmental controls
 - Examine all control sequences:
 - Microlevel control: each lab must operate independently to provide temperature and humidity setpoints with minimum airflow and in both occupied and unoccupied settings
 - Macrolevel: central plant and main environmental systems must provide minimum supply and exhaust to satisfy all safety needs